JPRS 83656

10 June 1983

Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 275

FBIS FOREIGN BROADCAST INFORMATION SERVICE

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service, Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semi-monthly by the National Technical Information Service, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

JPRS 83656

10 June 1983

WORLDWIDE REPORT

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 275

CONTENTS

NORWAY

DATA GENERAL CONNECTS TO TELECOM PACKET-SWITCHED AUSTPAC

Canberra THE AUSTRALIAN in English 12 Apr 83 p 27

[Text] DATA General has been connected to Telecom's new X.25-based packet switched service, Austpac.

Last month three of the company's offices – Melbourne, Sydney and Perth – transmitted using the service.

Data General computers were connected to Austpac in three States, and inter-office data was sent via the company's Comprehensive Electronic Office (CEO) package while the Xodiac networking software was also used to access information.

"Most of the data was sent via the electronic mail component of CEO," said DG's communications expert, Mr John Trezona.

"It is believed we are the first user in Australia to implement and use a comprehensive automated office package using the Austpac service."

Specialist

Mr Trezona said the DG connection to Austpac was a relatively simple one with few problems.

"After all, Data General is considered somewhat of a specialist in the communications area, with our X.25-based Xodiac software, the ICL CO3 protocol, the IBM SNA protocol as well as the older IBM bisync protocols all co-existing on the same DG equipment," he said.

He added that because of DG's experience with the X.25 communications protocol, the company had, for many years, enjoyed trouble-free connections to most of the major overseas public packet switched networks.

Most of the inter-office information being transmitted by DG employees via the network was of a technical nature.

Because of the trouble-free testing of the Austpac connection, Mr Trezona said DG could go fully operational as soon as the Telecom testing period was completed and the Austpac service became commercially available.

Telecom had indicated the Austpac service would be available to commercial users by the middle of this year.

General manager of Data General, Mr John Dougall, said his company was "more than happy" with the initial testing phase of Austpac.

"The Austpac service will be a very feasible proposition for DG's internal use and it will also open up a new cost-effective means of networking communication for national companies which might otherwise have found other services cost-prohibitive," he added.

DG was now implementing its CEO package in its 10 sales and service centres in Australia and expected to use the full Austpac service to interconnect each of its offices.

Departments in DG already using CEO included administration, marketing, sales and engineering.

CSO: 5500/7563

BROADCASTING TRIBUNAL MAKES 'LANDMARK' TV DECISION

Perth THE WEST AUSTRALIAN in English 15 Apr 83 p 19

[Text]

CANBERRA: The Australian Broadcasting Tribunal has rejected an attempt by South Gippsland people to have Melbourne commercial TV transmitted to the area.

It has recommended against the issuing of licences for translator stations to serve the town of Foster and surrounding areas.

The report will influence the expansion of TV throughout Australia by setting out the tribunal's policy on several broadcasting issues.

The Communications Minister, Mr Duffy, said that it was a landmark in Australian broadcasting history with implications for the entire industry.

But the South Gippsland shire secretary, Mr Rod Lomax, said that people would feel disappointed and cheated by the report.

Disrupted

Reception of Melbourne channels in the Foster area was disrupted when Melbourne's Channel 0 changed to Channel 10 in January 1980.

That involved Gippsland station GLV10 changing to Channel Eight.

Foster is outside the Melbourne TV area boundary but could often receive the Melbourne stations before the changeover.

When the changeover disrupted reception, the people in the area asked for special translator stations so they would again have access to the Melbourne channels.

But the tribunal has ruled that the licensing of the translators would create a dangerous precedent and cause expectations in other areas for the extension of similar services.

Interfere

If that was allowed it would interfere with the careful development of TV and the policy of supporting local stations.

The tribunal policy was to regulate the area in which a station could broadcast so that stations served the needs of the local community.

If people in that area could receive signals from stations in other areas, that was a coincidence and not a right that had to be preserved.

Increased radio and TV services were putting so much pressure on the airwaves that people who received signals from outside their area could expect them to be disrupted in future.

The report warns against buying expensive equipment to pick up distant TV stations because those signals could not always be re-

ceived.

Reception

The tribunal said that the translators would provide a much higher quality reception than Foster had received before the channel changeover.

It said that this would bring a major change to Australia's long-term policy on local broadcasting.

The tribunal has, however, recommended that the GLV6 translator which boosts the GLV8 signal should be moved to the ultra-high frequency.

That would allow the area to receive again Melbourne's Channel Seven.

The issue of metropolitan stations being able to beam into local TV areas will arise again when Australia's domestic satellite is launched.

These stations will be trying to use the satellite to broadcast their programmes to a much bigger area than they do now.

CSO: 5500/7563

BRIEFS

MIDAS LINK--IN CONJUNCTION with the Overseas Telecommunications Commissionk Prime Computer of Australia has successfully implemented a connection to OTC's MIDAS international packet switching system. Prime has installed a 4800 bps full duplex synchronous leased line between Prime in North Sydney and OTC in Broadway, connecting the Prime network of computer systems installed at their head office to the MIDAS data gateway to OTC. Overseas users may now call direct into the Prime Australia local network via the MIDAS data gateway facility, or any other network utility supported by OTC. In the past a major limitation existed in the inability of Australian data bases or hosts to be accessed from overseas data networks. The consequence of this limitation has been a one-way flow of information into Australia and the inability of Australian companies to offer reciprocal services. Installation and testing of the Prime facility commenced in late January, culminating in live operation on February 7. The parent company, Prime Computer Inc., based in Boston, Massachusetts, may now connect to the Australian subsidiary at will and transfer data as required, reducing costs previously incurred through Telex and FAX services. [Perth THE WEST AUSTRALIAN in English 6 Apr 83 p 53]

COMPUTERIZED GEOLOGICAL SURVEY--THE WA Geological Survey plans to computerise the retrieval of information from its minerals, petroleum and coal sections to give industry and the public better access to exploration data. The senior geologist with the mineral resources branch, Mr John Carter, said yesterday that the new system would be an important tool in modern minerals exploration. It should come into operation late in 1984. It was hoped to extend its value by linking up with interstate and international retrieval systems to give local geologists a world-wide data base for their work. Mr Carter was speaking to about 70 people at the survey's annual public lecture day at Mineral House. The deputy-director, Dr Philip Playford, said that the plans for data retrieval were part of an extensive computer information programme being organised by the WA Mines Department. The programme's first priority would be to develop a mining tenement information system to give ready access to all tenements, supported by maps covering each tenement. This would be linked to the huge body of geoscientific information submitted by the exploration companies, together with the survey's own data. "The volume of information produced in WA is by far the biggest in Australia," Dr Playford said. "It is becoming increasingly important because much of today's prospecting is being done in the geological survey office from these past reports." [Perth THE WEST AUSTRALIAN in English 9 Apr 83 p 14]

LOCAL COMPUTER PROJECT--ACCESS Computing Consultants has won a contract to carry out a high-level computer planning exercise for the South Australian Education Department. Submissions were sought nationwide and Access was selected over 22 other national and multinational consultants. The company was formed in 1976 in Perth and opened its Adelaide office in 1981. Access managing director Mr Martin Thomas said the company had recently been using the information engineering technique as part of its approach to corporate planning. The technique was modelled around setting measurable corporate objectives leading to the development of a corporate data model of the organisation and the information needed to meet those objectives. Then specific applications could be developed to maintain that information. He said the technique allowed management to ensure the information needs of the organisation coincided with applications developed by data processing departments. [Canberra THE AUSTRALIAN in English 12 Apr 83 p 24]

CENSUS DATA SYSTEM--A SYSTEM for census information was launched by Control Data Australia last week. Called "CNSUS", the system can be used for extracting any information for any geographic area in Australia. It is installed on Control Data's main-frame computer at Knox in Victoria. Control Data said the system will have great value for marketing and planning people in government departments and the private sector. It provides information at local or regional level and can be used to help estimate market sizes and analyse socio-economic characteristics. [Brisbane THE COURIER-MAIL in English 5 Apr 83 p 23]

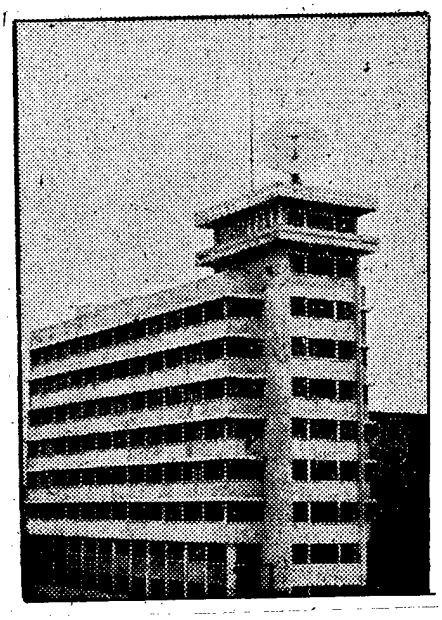
HONEYWELL CONTRACT--HONEYWELL Information Systems has scored a major order with the announcement last week of a $1.8 million installation for Dunlop Olympic Ltd in Queensland. While Honeywell's first job is to upgrade and extend computer and communication operation throughout Queensland, the order is the first stage in a national multi-million network to be created by Dunlop over the next five years. Equipment worth $800,000 has already been ordered for the state's head office wholesale and central distribution areas. The basis of the new system will be a Honeywell DPS 6/94 mainframe, based in Brisbane and communicating to the regions and Dunlop IBC in Melbourne. Honeywell said they won the order from six competitors. The ¢/94 is a high-performance 32 bit processor which will replace two eight-year-old systems at Dunlop IBC's Yeerongpilly warehouse and administration centre in Brisbane. The proposal is for five standalone systems, ranging from the DPS 6/32 to the 6/48 and 6/54 installed in 10 regional centres throughout the network. They will handle ordering, inventory control and accounting. [Brisbane THE COURIER-MAIL in English 5 Apr 83 p 23]

CSO: 5500/7563

NEW CHENGDU SATELLITE GROUND STATION COMPLETED

Chengdu SICHUAN RIBAO in Chinese 17 Apr 83 p 1

[Text] Sichuan's and southwest China's first satellite communications ground station was recently completed in Chengdu. The station has now entered into the final phase of trial operation. Telephonic communications between the station and the Beijing ground station 1,900 kilometers away are clear and the television images transmitted from the satellite are clear and brilliant in color. The Southwest Electric Industry Administration was responsible for the construction of this project. All of its equipment was imported. The station performs four functions: telephonic communications, printed matter facsimiles, photo transmissions and television reception.



View of the Chengdu Satellite Communications Ground Station

CSO: 5500/4153

BEIJING-ZHENGZHOU SECTION OF COAXIAL CABLE LAID

OW280835 Beijing XINHUA in English 0745 GMT 28 May 83

[Text] Beijing, May 28 (XINHUA) -- The major part of a 2,700 kilometer long coaxial cable between Beijing and Guangzhou has been completed and the section of 840 kilometers between Beijing and Zhengzhou, capital of Henan Province will soon be officially put into operation, reported the BEIJING DAILY today.

So far, the cable has been laid to Changsha, 1,840 kilometers from Beijing.

The project is one of China's 70 key projects now under construction. When completed, the paper said, it will serve as a major trunk telecommunications line between north and south China.

The coaxial cable is 9.5 mm in diameter and, when put into operation, will provide 7,200 wave-carrier telephone channels between Beijing and Wuhan, and 3,600 such channels between Wuhan and Guangzhou, the paper said.

To insure its voice quality, the paper said, 19 manned repeaters and 470 unmanned repeaters will be built along the line.

The paper also said the project is undertaken by the Ministry of Posts and Telecommunications, which plans to finish laying the cable to Guangzhou by the end of next year and will begin tests and adjustments in 1985, two years ahead of schedule.

CSO: 5500/4155

BRIEFS

MORE RADIO NEWS--Radio Bangladesh will broadcast two more Bengali news bulletins with effect from May 1. According to a Press release these two national news bulletins of 5 minutes duration each will be broadcast at 10 a.m. and 4. p.m. reports BSS. Radio Bangladesh in its national hook-up at present broad casts 7 Bengali and 6 English news bulletins including two news commentaries daily. Besides 9 bulletins of local news are being broadcast by 6 regional stations of Radio Bangladesh. For overseas listeners Radio Bangladesh in its external services broadcast 8 news bulletins and 7 news commentaries daily in English, Nepalese Hindi Urdu Arabic and Bengali the Press release said. [Dhaka THE BANGLADESH OBSERVER in English 29 Apr 83 p 1]

TELEPHONE PLANS TOLD--BAGERHAT (Khulna), April 30--The DCMLA and Minister for Communication Rear Admiral M A Khan inaugurated the 400-line automatic telephone exchange at Bagerhat yesterday. He expressed the hope that with the establishment of this exchange, neglected people of the area will be greatly benefitted, reports BSS. The DCMLA said that since the advent of Martial Law the administrative expenses of T and T Board has been reduced by 15 per cent and an income of Taka 84 crore has been made which is an all time record. He mentioned that besides this 400-line automatic exchange, the sub-divisional headquarters of Rajbari, Bhola, Satkhira, Magura, Manikganj, Netrakona, Pirojpur, Chapai Nawabganj, Joypurhat, Naogaon, Lalmonirhat, Natore and Nilphamari will be provided with automatic exchanges He also spoke about nation-wide dialling system and international dialling arrangements which will be completed by the end of this year. He also said that all the thanas will have telephone and trunk facilities by the end of this year. [Excerpt] [Dhaka THE BANGLADESH TIMES in English 1 May 83 pp 1, 8]

CSO: 5500/7127

ITI DIRECTOR TELLS PLANS FOR IMPROVEMENTS

Madras THE HINDU in English 8 May 83 p 6

[Text]

BANGALORE.

Mr. K. Swaminathan, Managing Director of Indian Telephone Industries, told pressmen here recently that the first digital electronic exchange was programmed to emerge out of electronic switching equipment factory to be located at Mankapur in the Gonda district in Uttar Pradesh in 1985. Substantial progress had been achieved in working out the details of transfer of technology and buying of equipment. The investment on it would be Rs. 180 crores inclusive of a modern township to house 70 per cent of its ultimate staff. Mr. Swaminathan hinted that the proposed Bommasandra unit near Hosur in Karnataka was likely to be six years ahead of the technology of Mankapur factory.

The company had finalised two collaboration agreements — one for new generation of multi — access radio systems at Naini and Bangalore, another for the manufacture of low noise amplifiers used in satellite communication projects at its Bangalore complex.

The two new projects the induction of new telephone instruments by augmenting production facilities at Naini and Bangalore and the new family of multiplexing equipment on transmission side at these complexes could not take off as the Government's approval had not yet been received.

Mr. Swaminathan said a new laboratory for large scale integrated circuits and very large scale integrated circuits development had been set up. According to him 17 different systems were under field trial, 18 projects were under development and 12 new projects were being launched. Push button telephone (without re-dial facility) electronic exchange of 100 lines for the Navy and micro-process based road traffic signalling system were a few projects that were cleared for production. The systems under field trials include modernisation of telegram handling, communication system for coal mines, push button telephone with re-dial facility and radio telephone.

To get over artificial jamming of the country's telephone system, it should have 30 million telephones. There were only three millions now. Two million telephones alone could be added every five years.

Shortage of funds

The scarcity of allocated funds for investment on telecommunication and its impact on the future of ITI was causing concern, according to Mr. Swaminathan.

Reviewing the performance of the company in 1982-83, he expressed the hope that the ITI's growth would not be stunted or its production capacities would remain unutilised for lack of funds and allocations to the P and T for expanding the telecommunication system.

The P and T could not allocate sufficient funds for buying equipment from ITI in 1982-83 also as in earlier year. Again, 1983-84 would be a difficult year when the allocations to the P and T department for buying equipment from ITI would hardly be sufficient to cover even half of the total supplies to be made by ITI. The issue had been referred to the Government for a favourable decision.

Mr. Swaminathan said the company on hand had several new projects, whose total investment when completed would be Rs. 328 crores. The turnover from them at current prices would be Rs. 900 crores. This would render ITI as one of the largest public sector enterprises.

The turnover during 1982-83 was Rs. 180 crores and the estimated pre-tax profit Rs. 18.5 crores, both highest so far. The value of spare supplied to the P and T was Rs. 12 crores against Rs. 10 crores in the previous year.

The company's production units turned out 1.87 lakhs lines of stronger equipment, 78,000 lines of crossbar equipment, 5.8 lakh telephone instruments and Rs. 54.40 crores worth of transmission equipment.

All divisions of the Bangalore complex performed at near rated capacities. Higher capacity utilisation was accomplished both at the Naini and Rae Bareilly divisions. The Srinagar unit of the company made 63,000 telephones first time since its inception.

CSO: 5500/7124

BRIEFS

NEW FACSIMILE TRANSCEIVER--HYDERABAD, May 8 (PTI)--The Electronics Corporation of India (ECIL) has developed a facsimile transceiver EC Fax, for quick and accurate transmission of information between different places. Facsimile transmission can be termed as electronic mail or a superfast postal service. It can be used both as a receiver and transmitter and adaptable to any communication media. Fax service would be of benefit to news agencies, advertising agencies for transmitting non-alphabetical scripts and new items in regional languages, cartoons and weather charts. It can send or receive documents and pictures in black and white or multishades, using telephone lines, radio network, microwave lines or any other audio channel across the country or around the world. The transmission time varies between four to six minutss depending on the type of document transmitted. The maximum size of the original transmitter is 210 X 297 mm. [Bombay THE TIMES OF INDIA in English 9 May 83 p 7]

CSO: 5500/7125

COMMUNICATIONS EXPERT ENUMERATES ADVANTAGES OF SATELLITE

Tel Aviv YEDI'OT AHARONOT in Hebrew 20 Apr 83 (supplement) p 25

[Article: "Communications Satellite--The Eyes of the State"]

[Text] Does Israel need its own communications satellite or one under its control? Yes, says Dr Ya'aqov Gavan, communications and electronics expert who does not disregard the high price but also is cognizant of its many advantages.

Some 70 percent of international communications today are done by geostationary satellites (hovering over the equator at the speed of the earth, thus remaining in a fixed position over the globe).

The Arab countries have already ordered three such satellites and two are due in 1984.

The Israeli satellite will provide good quality communications with the Jewish diaspora and with Israeli embassies around the world. Devices for keeping secrecy can be added as needed.

It will provide fast direct contact with computers and bank branches around the world and even in Israel, and can mail at high speed.

It will permit good television broadcasting throughout Israel, including the Jordan Valley and the Galilee which suffer interference from Jordan and Syria.

It will improve intercity communications by adding channels during peak hours and for special events.

It will provide thorough mapping of water reservious and mines in Israel, will help agriculture and the meteorogical service, and perhaps even drilling for oil.

Dr Gavan adds that the satellite may provide military advantages which cannot be specified and mentions that at certain frequencies it can provide the state with highly sophisticated surveillance.

At the first stage, he points out, it may pay to concentrate on developing equipment for ground stations which is low in cost and has exporting potential.

In more advanced stages it will be possible to develop a multi-purpose Israeli communications satellite and build a basis for launching satellites, at first perhaps with the funding of foreign companies. One should not at the same time, ignore other options of achieving satellite performance through other means. For example, based on our superior achievement in the realm of pilotless aricraft, it may be possible to develop advanced platforms for communications and monitoring operating on cheap energy provided by the electric company through cables. Such platforms can be placed at an altitude of dozens or hundreds of kilometers through sophisticated ground control systems. It is possible that such platforms may serve as a cheap substitute for satellites.

9565
CSO: 5500/4525

NEW PHONE CONNECTIONS TO BE PROVIDED IN SIND

Karachi DAWN in English 17 May 83 p 11

[Text]

A total of 4,000 new telephone connections will be provided to waiting applicants this year in the Southern Telecommunication Region in Sind other than Karachi.

Following the expansion of the Hyderabad City Telephone Exchange and Latifabad Exchange, it will now be possible to reduce the present pending demand of Hyderabad from 4,400 to 1,700 which will be taken up in next year's Development Programme. In Hyderabad alone, 1,600 connections have already been provided this year.

With the expansion of Hyderabad Exchange a total of 2,100 lines have been added bringing its total capacity to 5,000 lines. The scheme has been completed at a cost of Rs. 1.50 crores.

The Pakistan Telephone and Telegraph Department has undertaken development works in other districts of Sind as well. Expansion of Shahdadpur and Tando Adam exchanges has been completed. Expansion of Kotri SITE exchange and Sukkur SITE exchange is in advanced stage and will be completed during current fiscal year. A mobile 500-line exchange in Sukkur has already provided additional telephone connections in that city.

Development work in rural telephone system is also underway. Installation of 24 new exchanges and expansion of 17 exchanges in small towns is being done and is scheduled to be completed by end of June this year. Forty public call offices on VHF and 25 public call offices on land lines will be provided in rural areas of Sind this year.

The Department has plans to provide additional residential quarters for the staff and 232 quarters have been provided in projects to be completed by next year. Departmental dispensaries in Hyderabad and Sukkur will start functioning in a few weeks.—PPI

CSO: 5500/4741

BRIEFS

REDUCTION IN TELEX FEE--Faisalabad, 20 May--The annual rent of Rs. 25,000 for telex in vogue in Pakistan is the highest in the world and the govt. would be well advised to rationalise this in the wider interest of national economy at the time of the forthcoming budget. This was contended by Zonal Chairman, PFCCI, Syed Nazar Hasan Shah in a statement. Tabulating the rental in other countries, he said these were: Japan (equivalent of) Rs. 19,911, USA Rs. 18,590, UK Rs. 16,375, France Rs. 12,103, Indonesia Rs. 6,145, W. Germany Rs. 4,209 and India Rs. 3,962. This disparity, he said, was ironical in view of the low rate of per capita income in Pakistan. Explaining his viewpoint, he reiterated that since telex is by far the swiftest and most accurate and reliable means of communication it should be placed within the reach of every exporter and importer. He urged upon the government to reduce the annual fee of telex machine from Rs. 25,000 to 5,000. This, he said, would enable the country to augment the foreign exchange earnings manifold through enhancement in export trade. [Text] [Karachi DAWN in English 21 May 83 p 8]

CSO: 5500/4741

BROADCASTING ACTIVITIES OF DEUTSCHE WELLE

Munich SUEDDEUTSCHE ZEITUNG in German 3 May 83 p 3

[Article by Gerd Kroencke on the 30th anniversary of Deutsche Welle: "Proud of the Cologne Mixture: A Message in 34 Languages"]

> [Text] As one of the major foreign broadcasting stations in the world, the radio service transmits an image of Germany to five continents."

On a clear day one has a wonderful view far into the country. Only the cathedral is taller, and from the 31st floor where Klaus Schuetz has his office one can easily see as far as Bonn, which has a certain symbolic significance for the editors. Not that the former governing mayor of Berlin and then ambassador to Israel and now director of the Deutsche Welle gets his orders from the government, but--more so than his predecessors--he constantly has Bonn in mind in everything he does.

This Tuesday [3 May] it will be exactly 30 years since, with an address by Theodor Heuss, Deutsche Welle started its broadcasting operation. A veteran of the beginnings recently wrote about what went on in the old Cologne Broadcasting Center at that time. The bass of Papa Heuss, taped at Villa Hammerschmidt the day before, appeared to be especially sonorous--probably not because the president was in a good mood but because the weather was fine. The spring sun--it was 12 noon--was burning so strongly and the tape deck had become so hot that the tape slowly began to dissolve. Old Heuss, or rather his voice, just made it, managing a first greeting from the old homeland--a greeting reaching directly "over the air for the ear and also the heart of people of German origin, ways and language all over the world." In conclusion Heuss, his "heart greatly moved" (that is the way people talked at that time), then offered a wobbly deep "God be with you." The engineers had just about had it when it was over.

A Day of Anecdotes

This Tuesday, when Guenter Noris and his Big Band of the Bundeswehr [Federal Armed Forces] will play at the anniversary festivities in the fully air-conditioned Cologne Broadcasting Center, with beer and champagne at the prices of the good old days (the staff having been issued food-and-drink

vouchers worth 50 pfennigs each)--this Tuesday is also bound to be a day of anecdotes. For instance, about how a German priest in the Brazilian bush, instead of hitting a mosquito, by mistake hits his radio and drops it off the table and how, believe it or not, the radio, rather than having been broken, suddenly says "This is Deutsche Welle broadcasting from Cologne." Father Georg, the story goes, was one of the first listeners. At that time, the broadcasting service could only be heard in German, but more languages and new programs have been added since.

In the meantime the signature tune has been sent by shortwave into all corners of the world millions of times. On the 31st floor we ask division chief Lothar Schwarz, onetime SPF spokesman in Bonn, to recall the tune for us, but all he manages is "tatatataa," and though this too is Beethoven it is not from "Fidelio." The line "A brother reaches for his brother," broadcast in clear clesta sounds over the air, does sound a little different.

No doubt there will also again be a lot of bandying about of statistics on the occasion of the anniversary. There will be mention of 34 languages and of 93 programs. These include, however, also such exotica as the broadcast in classical Indian Sanskrit, which even in India is now spoken only by scholars. The chances are that a transmission in Latin would encounter the same kind of echo. Sanskrit, the word goes, was included in broadcasting for not quite an hour every couple of weeks because a well-educated section chief had a weakness for it. Thenceforth it was retained as an "homage by the genius of Germany to the genius of India," as Johannes Gross put it when he still was chief editor. God knows who listens to it.

With other programs it is said to be a different matter. The message for citizens of the Soviet Union, they say, is listened to by 2.48 million people a day--predominatly young men with advanced schooling likely to live in town rather than in the country. Many people from urban areas, it is believed in Cologne, go especially to the country on weekends because the jamming transmitters are not as effective there. Most of the listeners of Deutsche Welle live in Belorussia and the Ukraine; in Odessa reception is the worst--1.1 on a scale where 1 equals "worthless." How is all this known? Radio Liberty, the U.S. radio which is not exactly among the advocates of detente, had 2,500 Soviet citizens interviewed--an "indirect questioning" of travelers "who were in the West for a period of time." An American institute computed the figures; further details were not given out in Cologne.

The Germans send their image of Germany to the corners of the world around the clock--23 hours and 47 minutes alone in German, the other 13 minutes for the radio silence when frequencies are changed. Only Arabic for the Middle East and Africa, with 4 hours, is broadcast longer than the Russian program. Hundreds of thousands of listeners' letters arrive every year, with the people in Cologne being fond of wheedling some extra ones out of their audience. When Helmut Schmidt was in Tokyo at one time, Deutsche Welle announced in its daily hour for Japan that the then chancellor was not only a great international economist but, it was claimed, a passable pianist. Whoever would send a postcard to Cologne would receive a record with Mozart pieces for three pianos (Schmidt equitably having left the more rewarding

part to Mr Christoph Eschenbach during the recording). In case more than 60 people wrote in, recipients would be determined by lot (the radio said). A total of 9,400 Japanese Mozart aficionados wrote in. Also popular are the practical T-shirts with the emblem of Deutsche Welle, a stylized globe, or--in the Third World--useful promotional screwdrivers.

Today Deutsche Welle is among the big ones, in addition to Radio Moscow and Radio Peking, the Voice of America and the journalistic model, the British Broadcasting Corporation--the legendary BBC. Frequently--not only in Moscow--the activity of the German radio is interpreted as interference in internal affairs. Klaus Schuetz rejects this, saying: "it has not been and is not (nor can it be in the future) the task of the Deutsche Welle to want to change political systems and forms of government in other countries."

Only persons going it alone try to do so occasionally. "Our real problem," says Lothar Schwarz, "lies en route from the manuscript via translation to the microphone. What goes on there is very difficult to check." How many people know Amharic or can tell when an Iranian speaker in the news for his homeland gives the Ayatollah a few additional unfriendly epithets?

The centerpiece remains the German program, and it reminds one a little of the time when Heuss was president--more Zarah Leander than Udo Lindenberg, more in accord with the inclinations of German expatriates than with development aid people who regard not the Reich but the republic as their homeland. Yet the people in Cologne are sure they have found the right mixture, and dozens of overseas listeners clubs profess their loyalty. It is over shortwave transmitters in the vicinity of Juelich near Cologne and in the Bavarian Wertach Valley, that Deutsche Welle broadcasts its programs, and by means of relay stations in Ruanda and Portugal, in Malta and the Caribbean, take them to all corners of the world. The only gaps that remain are in Asia, and these are now to be filled with a relay station in Sri Lanka. Some thought is already being given to broadcasting in Korean since it would not do any harm for Seoul and Pyongyang to learn something about the Federal Republic.

The journalistic model has not yet been equaled, though. The lead of the BBC consists primarily in its worldwide network of correspondents, whereas the FRG outfit, in addition to Cologne, has a presence only in Bonn and Berlin and, to some degree, in Brussels. Moreover, among all worldwide radios in existence, the journalistic credibility of the British has been tarnished least. Wherever possible, the Germans try to follow the model, but this is not all that easy since the people in Cologne to a large extent have to rely on foreign research and, for example, would be in pretty bad shape without their own monitoring service.

This service primarily monitors foreign stations. Day and night 70 employees of Deutsche Welle work in shifts listening to the radios of the world and translating what is broadcast by Shanghai or Kampala, for example. To this day Deutsche Welle is proud of the fact that it was their personnel who taped General Jaruzelski's speech when he proclaimed martial law. The

Federal Press Office had missed it completely. The people in Cologne conduct an exchange with the BBC, with 800,000 words arriving from London by teletype every night. There is no way of avoiding an imbalance, what with the British employing 650 persons in listening to what is broadcast.

Seldom have the people in Cologne been so satisfied with the man who is their superior. Reservations about chief editor Josef Gerwald, former FDP party spokesman, have lessened. He has turned out to be a competent journalist with an independent mind. (No one resented the fact that he recently promoted a couple of Liberals to important jobs because both were sufficiently qualified.) They are not happy with the director, however. At one time there was one of the kind they had always wanted. An editor whom we ran into in the elevator and with whom we then gazed at the Siebengebirge for a while amazed us by reeling off the dates: from 1 March to 18 December 1981, when he died suddenly, Conrad Ahlers was director of Deutsche Welle. Quite independently of one another, separate editorial offices in the high rise came up with the same turn of phrase that December: "Spring is over." One still encounters a number of people who downright loved Ahlers and quite a few who respected him greatly.

"It Is Not My Trade"

The contrast between the predecessor and the current successor made the loss particularly apparent. Conny Ahlers--or just Conny, as many still call him--was a journalist possessed with his vocation, and also authoritarian. He could drive people crazy, but he also motivated those who did not share his political views. If one talks with a Deutsche Welle editor about Conrad Ahlers longer than 5 minutes, one might think that he still wanted to formulate a eulogy. Ahlers disliked nothing more than routine. One editor, quite delighted, tells us about how Conny suddenly scheduled a soccer game for a program because people were more interested in it than the scheduled cultural broadcast.

Klaus Schuetz does not fare well in comparison. He knows nothing at all about journalism, being quoted as having said in his inaugural address: "It is not my trade, and I have no intention of learning it either." And the praise the director had for the personnel right at the start was felt as an insult by quite a few. Never, the former mayor said, had he seen an agency working so busily. And in fact he directs Deutsche Welle like the head of a government agency.

Of course the director has a different view of himself. Division head Lothar Schwarz puts it in positive terms: "He sees here an opportunity to continue his work as a politician and diplomat by means of radio."

8790
CSO: 5500/2692

LOWER SAXONY TO INTRODUCE PRIVATE TELEVISION, RADIO

West Berlin DER TAGESSPIEGEL in German 4 May 83 p 7

[Article: "Lower Saxony Introduces Private Radio and Television Programs in 1985: Corresponding Legislative Bill Passed in State Parliament"]

[Text] It is expected that from mid-1985 on, North German Radio (NDR) will get private competition in Lower Saxony. In commenting on a corresponding legislative bill passed yesterday by the cabinet of Lower Saxony, Prime Minister Albrecht emphasized to journalists that "for the first time in the history of the media in the Federal Republic" private broadcasters would be allowed to function along with public ones. His statements indicate that two radio and television programs each are planned for broadcast throughout the province. The gradual installation of cable and two new FM frequencies, which will be ready in 1985, will fulfill the technical requirements for the programs.

Albrecht pointed out that the committee bill presented at the beginning of last November as a basis for discussion has had several important provisions revised. Among other things, this is the result of "quite substantial and helpful hearings," at which about 50 associations and other organizations aired their views. In contrast with the original version, the bill requires that the broadcast committee responsible for program review be legally constituted as a public institution. The control board is also supposed to have more opportunities for participating in giving out licenses. Whereas according to the original bill the broadcast committee only needed to be "consulted" before awarding licenses, the new bill gives it the power to select among the numerous applicants who fulfill the necessary requirements. The provincial government in Hannover retains the right, however, to nominate an applicant.

According to Albrecht the reason for these changes is the doubt expressed by various sides about the constitutionality of the original version, according to which the provincial government alone would have been responsible for awarding licenses. Like the NDR broadcast council, a 26-member private broadcast committee made up of so-called socially relevant groups--such as political parties or associations--will be established, according to the present bill. The costs for this committee will be borne by the province.

The requirements for awarding licenses were also changed. Above all, the provision that previous accomplishments and activities in the media be taken

taken into consideration in selecting applicants was eliminated. This formulation was criticized on the basis that it would favor publishers and thus contribute to further concentration in the press. On this point Albrecht stated that he would "gladly" have publishers among the applicants for licenses but that he wanted to avoid any hint of favoritism.

According to the revised bill, licenses can be awarded to "legal persons under private law," publicly registered religious organizations and ideological fellowships and associations or private persons who are financially capable of producing programs for province-wide distribution. In order to finance the programs, donations and "fees to be charged to participants" are provided for in addition to advertising. The bill requires that advertising take up not more than 20 percent of broadcast time and that it be broadcast throughout the entire province in consideration of the interests of the local press.

The requirements on program format were also strengthened. Whereas at first only compliance with general laws was required and only pornography was expressly prohibited, provision is now made to forbid the glorification of violence, for example in war films.

Albrecht emphasized his administration's desire to deny access to local broadcasters. In principle, permission will be granted only for programs broadcast throughout the province. However, "local features," which could comprise up to a fourth of broadcast time, are provided for. In defending this restriction, the head of the administration said it would be extremely difficult to ensure balanced programming with a multitude of "genuinely local radio stations."

Albrecht emphasized his "high expectations" for private broadcasting. The additional competition would "make the press environment more interesting" and additional program offerings would lead to greater diversity of opinion. In addition, the provincial government is hoping for "important boosts to the economy."

12412
CSO: 5500/2695

CGCT REORIENTS TOWARD BUSINESS COMMUNICATIONS, SEEKS FINANCING

New 'Carthage' Network

Paris ELECTRONIQUE ACTUALITES in French 15 Apr 83 pp 1, 12

[Article by D. Levy: "After the 'Carthage' Contract, Corporate Networks Are the First Line Along Which CGCT Plans to Redeploy"]

> [Text] If CGCT [General Telephone Engineering Company] is to survive, it must undergo massive reconversion. Mr Lestrade, CGCT chief executive officer, did not sidestep the issue at the press conference he held in Paris on 12 April.

He pointed out that the enterprise is ready for diversification and reconversion toward "buoyant fields in the electronic sector." But, he said, the financing problem, which is still pending, should be solved as a matter of urgency: an estimated 2 billion francs are required to restore a sound financial situation and help the enterprise in its redeployment. In this respect, corporate networks appear to be the first line of diversification of the CGCT group, especially now that it has obtained a 45-million franc contract from the PTT [Postal, Telephone and Telecommunications Administration] to design and produce the "Carthage" multiservice network for CCETT [Joint Television and Telecommunications Study Center].

The CGCT group now has consolidated sales of 2 billion francs and a personnel of 8,600. In the group, the parent company accounts for 1.3 billion in sales and 6,140 people. Sixty-five percent of its sales come from switched public networks, and it is planning to redeploy 2,000 people (out of the 4,000 employed in this sector) in "buoyant subsectors of the electronic sector."

Even then, CGCT--which is manufacturing the "11-F" space-division switching system which the PTT considers to be nearly obsolete--will still have to solve the problem of keeping 2,000 people working on switched public networks. This is why CGCT is now negotiating a manufacturing and marketing agreement for a time-division switching system ("E10" or "MT").

Based on this--and with the hope that the PTT will keep their orders at a level of 320,000 lines and that the company can conquer new export markets--CGCT will organize its redeployment.

Looking For Subsectors

"We are on the lookout for any buoyant subsector in the electronic field," Mr Lestrade confided, pointing out that conversion to electronic switching will make it easier for the teams to adapt to a wide range of electronic fields.

But, first of all, it was normal for CGCT to privilege the field of telecommunications with which it is so familiar, and especially that of corporate networks. In this field, the company expects to recover its share of the French market for switched private networks (17 percent) and to export 50 percent of its production, thanks to its new line of 3-500 line "Digimat" exchanges. It also intends to work on a future generation that will integrate voice and data.

As far as telephone stations and terminals are concerned, CGCT, which manufactures "Digitel," plans to develop a complete line of electronic stations and step up its production from 375,000 to 700,000 stations by increasing its sales of stations in France and on foreign markets. From this line, the company is expecting to derive a whole series of multifunction terminals (along the way of the CGCT TV-200 card validation terminal).

Finally, CGCT has started developing datacom terminals (the first one will be a "TLX 100" text teleprocessing machine) and is contemplating the production and installation of videocommunication equipment (cable networks, 4th-[TV]-channel decoders, etc.). Its objective is to have 750 people working in these fields by 1986.

Multiservice Looped Network

The reorientation of CGCT toward corporate networks has just materialized with the contract it signed with the PTT for implementation of the "Carthage" multiservice network designed for CCETT. This will be one of the first examples of integrated corporate networks. It will be installed in 27 months and will serve all CCETT buildings.

The "Carthage" network will use the optical fiber cable network already installed at CCETT, and will include 600 telephone stations (that number is expected to be increased to 1,000 later on); it will reuse the core of the existing private exchange, 400 miscellaneous terminals, the data-processing center (3 computers) and the internal data-communication and office-automation service centers of CCETT. It will also control a video network using separate transmission supports.

For the experimental "Carthage" network as for the "6500" multiservice corporate network, which is the industrial version incorporating the technical solutions adopted for the "Carthage" network, LCT [Central Telecommunications Laboratory] has followed the following principles: compliance with international

standards and protocols, to guarantee that networks will remain open; integration of voice (telephone) and data communications in a single network, using circuit and packet switching; single or multi-looped network architecture linking cluster control units to which users are connected; and direct compatibility with public networks (telephone, Transpac, Telecom-1, RITD [Internal Data-Transmission Network], etc.).

Note that, contrary to "Carthage" which uses the core of an existing private automatic branch exchange, the "LCT 6500" network fully integrates telephonic functions in network units, using switching and distributed-control techniques (which has the advantage of optimizing the initial cost).

These attractive solutions open the way for a new generation of local networks to follow the bus networks that are used now (and their precursor is "Ethernet.")

Turnover, Sales

Paris ZERO UN INFORMATIQUE HEBDO in French 18 Apr 83 p 3

[Article by Cecile Ixelles: "To Survive, CGCT Must Solve Its Financing Problem"]

[Excerpts] A Matter of Survival!

The major problem, that of financing, has not yet been solved. CGCT has to find a solution very soon, if only to absorb the losses it has suffered from 1976 to 1982, i.e. 600 million French francs.

And Pierre Lestrade stated: "It is to discharge our past liabilities that we are asking our new shareholder, I mean the State, to restore our capital so we can return to a sound financial situation that will leave the enterprise all its chances to stimulate its activity and reconvert itself."

This is the major concern and the ambition of the CGCT group, as Pierre Lestrade confirmed: "This is a realistic ambition, especially considering that the enterprise has fully demonstrated its profound vitality by surviving over two years of uncertainty."

The CGCT Group

With a personnel of 8,600, the CGCT group achieved consolidated sales of 2 billion French francs in 1982. The group includes four companies:

- CGCT itself, with 1.3 billion French francs in sales and 6,140 people. It derives 65 percent of its sales from switched public networks, 10 percent from peripheral telephone equipment, and 25 percent from private telephone networks.

- La Signalisation: 390 million French Francs in sales, with 1,440 people. It installs and connects cables for the PTT and EDF/GDF [French Electric Power Company/French Gas Company]. It just obtained the large Kuwait contract (435 million francs).

	Sales (excl. of tax)		Export Sales		Personnel	
	1981	1982	1981	1982	1981	1982
CGCT	1,631.4	1,311	236.0	175	6,677	6,536
LCT	175.7	176	99.7	82	598	580
La Signalisation	366.0	390	185.0	213	1,401	1,439
Pouyet	103.7	113	7.3	13	467	447
CGCT Group	2,259 [as published]	1,990	528	483	9,143	9,002

Figures in million French francs, as of 31 December 1982.

- Pouyet: 110 million French francs in sales with 440 people. Manufactures cable-connecting equipment.

- LCT: sales of 170 million French francs with 580 people. This laboratory develops professional electronic equipment: 50 percent of its activity is in radar systems, 15 percent in aerospace technology, 35 percent in telecommunications.

9294
CSO: 5500/2689

THOMSON TO DEVELOP X-83 SYSTEM FOR INTEGRATED NETWORKS

Paris ELECTRONIQUE ACTUALITES in French 8 Apr 83 pp 1, 15

[Article by D. Levy: "The Videotex Access Point, A Public Message Transmission System and the Transpac Transit Center: Three 'X-83' Applications Studied by Thomtit and Three Data-Processing Consulting Companies"]

> [Text] Thomtit, a department of the Thomson-CSF Switched Public Networks Division (since it took over control of TIT [Toulouse Industrial Technology] last year), which was already an economic interest group of Thomson and TIT in the field of data networks (see ELECTRONIQUE ACTUALITES dated 4 December 1981) has just been selected by DAII [Directorate of Industrial and International Affairs (of the General Directorate of Telecommunications)] to design and develop three systems: the videotex access point (PVA), a public message transmission system, and the "Transpac" transit center.

These three contracts, which were awarded after consultations with the industry, represent a total of some 250 million francs, including the development of the "X-83," a multiprocessing system around which the three other systems will be organized. We should note that PTT [Postal, Telephone and Telecommunications Administration] requirements are estimated at 200 PAVs and some 10 "Transpac" transit center; as for the public message transmission system, it is too soon yet to give a figure. The PAV contract was obtained in association with STERIA [Data-Processing and Automation Realization Company], that of the public message transmission system in association with Cap-Sogeti.

The "X-83" multiprocessing system is a multiservice modular control device. It is organized around the "68000" microprocessor and the X-bus (from Thomson) and includes high-speed inputs-outputs (using the "Scipion" coupler for high-speed packet switching). Its basic software is supported in particular by a powerful monitor (ATHOS) and a network architecture that constitutes a receiving structure for telecommunications. Initially, the interface with the telephone network consisted of a "7200," the core of the "SX-8" electronic switching system (developed by Matra-TIT-TRT [Telecommunications, Radioelectricity, Telephone]). Thomson has now offered the PTT to replace it with "MT-35" racks.

By 1986, the videotex access point (PAV) must constitute the "final bridge" between the switched telephone network and "Transpac." It has a dual objective: to make it easier for users, on the one hand, to access videotex data banks connected to "Transpac" from "Minitel," and, on the other hand, to access "Transpac" via the telephone network.

Co-Contracting With STERIA and Cap-Sogeti

As a result, a PAV consists of four parts: the interface with the telephone network (including one or two "MT-35" racks, each with 100-1,200 lines), modems, processing (menu, billing, etc.), and the interface with "Transpac" (with, of course, "X-25" outputs). This new PAV will use the "Architel" protocol.

The contract for the study was awarded to Thomson-STERIA (co-contractors). It includes the supply of four PAV prototypes (by the end of 1985) and one control center (for several PAVs). The latter was subcontracted by Thomson to its Syseca subsidiary. The number of PAVs required by the PTT will depend on the number of terminals and on the traffic. However, it is estimated that, by 1986, these requirements will be for 200 PAVs (with 600 lines each) over a 5-year period.

The public message transmission system is the result of two industrial consultations launched by DAII in 1981, and which dealt with teletex message transmission and group-3 telecopying ("Transfax"). The new name has induced Thomtit to offer a message transmission service center that would enable teletex terminals and telecopiers (groups 3 or 4) to send and receive messages through various transmission networks (especially the switched telephone network, "Telecom-1," and "Transpac").

The system consists of an "MT-35" module linking the "X-83" to a telephone network, an interface with the transmission networks, and a part designed to process message transmission (broadcasting, authentication, etc.). The product software development is provided by Cap Sogeti Software, and a control center has been subcontracted by Thomson to Syseca. It is not yet possible to forecast users' requirements for public message transmission.

The "Transpac" high-speed transit center, also called modular transit switch (CMT) is designed to meet the requirements of the expanded "Transpac" network and its increased traffic. With some 30 nodes already in service throughout the territory, the "Transpac" network has become the largest European data packet-switching network, connecting over 10,000 users. It now has a problem with respect to meshing (how to preserve the high degree of reliability of the network-and with respect to traffic, especially now that "Teletel" has been placed into service.

Therefore, the introduction of transit centers into the network is now considered to avoid numerous meshings. The PTT have selected a system organized around the "X-83," introduced by Cap Sogeti Software and Thomson (co-contractors). The contract should be made public in a few days.

Observe that, thanks to the high-speed "Scipion" couplers, the "X-83" product makes it possible to switch several thousands of data packets per second (i.e. several tens of Mbits/s). Therefore, it represents a "scaling jump" compared with present data-switching systems, and prefigures a third generation "Transpac" network.

Let us add that agreements between Thomson and data-processing consulting companies appear to have been negotiated; they would give preference to STERIA for videotex, to Cap Sogeti for data packet-switching, and to Syseca for control and maintenance centers. Should these alliances be confirmed, they would be exemplary, for the companies would both become specialized and get used to working together. This would make them more competitive, especially on export markets where "X-83" applications will represent 40 percent of total 1986-1987 sales.

9294
CSO: 5500/2689

GOALS OF THOMSON, ALCATEL IN SWITCHING, FIBER OPTICS, RADIO LINKS

E 10, MT 20 Systems Advance

Paris ELECTRONIQUE ACTUALITES in French 25 Mar 83 p 10

[Article: "From Time-Division Switching to RNIS [ISDN]"]

> [Text] France was the first country to generalize time-division at the level of subscriber exchanges. In fact, as of year-end 1978, of the 750,000 time-division switching subscribers throughout the world, 500,000 were French. As of year-end 1982, 5.5 million French subscribers (out of a total of 19.5 million) were connected to an electronic exchange (and for the most part on a time-division switching basis). This decision to generalize time-division switching was based on the availability of a time-division switching system, namely, the CIT-ALCATEL's E-10, and on the development, that was under way, of Thomson-CSF's [Thomson-General Wireless Company('s)] MT product line. Today, both these builders are trying to exploit their lead in time-division switching on the international service: The E-10 (as of year-end 1982) had almost 11 million lines in service or on order in 28 countries (4.4 million of which in foreign countries), and the MT almost 4 million lines on order or in service (almost 1 million in foreign countries). Concurrently, both our builders affirm the evolution of their systems and are preparing for the advent of the ISDN [Integrated Services Digital Network].

In 1982, the Public Switching Division of CIT-ALCATEL had a turnover of 3.545 billion francs, up 17 percent over the previous year, and booked 3.961 billion francs of orders (up 10 percent). Its export sales totaled 567 million francs (16 percent of its total billings) and its export order bookings 1,309 million francs (33 percent of its total orders, versus 21 percent in 1981). CIT-ALCATEL's biggest award was won in India, with a 3-billion-franc contract signed last August.

These results are obviously owing to its E-10 system, which as of last year-end had accounted for 10.655 million lines on order or in service in 28 countries (this total is now 30 countries with the contracts it has won in recent weeks in Pakistan and Somalia). Of this total number of lines, 3.8 million are in service (3.35 million lines in France and 500,000 lines abroad), and 6.8 million lines are on order (2.9 million in France and 3.9 million abroad).

Improvements in the E-10

It goes without saying that the E-10 system is now creditably stabilized industrially speaking. Despite its already long history, however, its industrial stabilization is relatively recent. It has been achieved, in fact, with the E-10B version, which differs from the E-10A by way of its subscriber concentrator, its central command units and its operating and maintenance center. But after the putting in service of the first E-10B at Brest, in June 1981, CIT-ALCATEL lost no time in revving up its production operations, in that, 6 months later, 31 exchanges of the same type were in service. One year later, its Cherbourg plant, which in 1980 was still producing electromechanical exchanges, had attained a productive output of 310 subscriber concentrators (CSE [expansion unknown]) a month, and CIT-ALCATEL's productive capacity had risen to 1.5 million E-10 lines per year.

This industrialization drive was accompanied by a broadening of the range of the E-10 applications, particularly as regards the development of a billing center, small containerized exchanges, and expansion of its connecting-circuit matrix to 384 microwave integrated circuits (a capacity increase of 50 percent over the preceding 256-MIC version). Other improvements of the E-10 are under way, such as local-call handling by a remote concentrator, the connection of subscribers by way of small concentrators, and expansion of the system toward very large capacities.

Local-call handling by remote concentrator is done by equipping the latter with command units. This feature, which makes it possible to handle local calls in case of an outage of the link with the general network (assuming the country in question, unlike France, does not have routing redundancy via cable and microwave), will be available for export next year. Beginning this year, CIT-ALCATEL will offer for export a smaller version of its CSE electronic concentrator, designed to accommodate the connection of up to 256 subscribers in lieu of 1,023 subscribers (on its MIC link). In addition, to enable it to respond to requests for bids on very-high-capacity exchanges (up to 200,000 lines), CIT-ALCATEL is studying a new version of the E-10, consisting of modular sections, capable theoretically of unlimited expansion of its capacity. This version, featuring a new connecting-circuit network, should become available in 1985. Of course, the E-10 is in lockstep with technological advances (64K memories, microprocessors, etc), which are introduced into the system as and when they make their advent.

CIT-ALCATEL also offers its E-12 high-capacity, time-division toll center and its E-10S system, designed for medium-capacity telephonic applications (8,000

subscribers) and special-purpose applications. Thus, subscriber-center versions have been developed for the American and other export markets. E-10S toll center versions will also be offered. Special-purpose applications include: The E-10 Videotex, which provides an interface between the telephone network and the Videotex service distribution center (the system is being used for the electronic telephone directory service); the E-10 Multiservice, used as a terminal concentrator of a different nature in the TELECOM-1 networks; and the E-10 Radiotelephone, which will interface several cellular telephone centers among themselves and with the general network.

From the MT-20 to the MT-35

The Thomson-CSF's Public Switching Division "pulls in" 2.6 billion francs (its 1982 turnover), 600 million francs of which (23 percent of the total) come from exports, and its booked orders total 5.3 billion (as of 1 January 1983), 46 percent of which are for export. For 1983, the builder is projecting 2.5 billion francs of orders (30 percent of which to be exported), and a turnover of 3.5 billion francs, 39 percent of which from exports. Thomson-CSF's biggest contracts have come from Iraq, Egypt and the USSR (around the beginning of 1984, the builder is to deliver an MT time-division, mixed toll-subscriber exchange to Leningrad, and is building a plant at Oufa, capable of producing 1 million lines per year and due to be put into service by year-end 1984).

After a difficult developmental phase, which required all of 970 man-years, the MT-20 time-division system finally reached its operational phase in two stages, following the installation at Amiens (MT-20L version equipped with two 3202 calculators) in June 1982, then the turning over to PTT control of the two Paris MT-20 "Bonne Nouvelle" exchanges (a definitive production-line version equipped with the Mu 320 calculator). The system can handle up to 500,000 call attempts during peak-load hours and has a maximum capacity of 20,000 simultaneous completed calls.

Other MT-20 exchanges will be delivered to the PTT over the next several weeks: Thomson's current schedule calls for delivery of 21 exchanges by the end of this year and 13 exchanges in 1984. In addition, an MT-20 international toll center is to be installed at Marseille this June, followed by seven others by year-end 1984.

Concurrently, Thomson-CSF is preparing to deliver to PTT "precontrol," within the next several weeks (in April), the first three MT-25's to be installed in the Paris region (Le Raincy, la Croix de Berny, and Plaine) and placed in service by the end of this year. The MT-25 subscriber-services center is equipped with a connection-circuit network of the MT-20 type, commanded by the same Mu 320 calculator, equipped in its turn with a supplementary software for the handling of subscriber calls. The central unit is connected to URA-2 G's. The maximum capacity of the MT-25 is 65,000 subscribers. This production is based on an industrial organization with a current annual output of 2,700 URA bays and 220 Mu 320 calculators.

Thomson-CSF also offers an MT-35 system, the design of which differs from that of the MT-20 and -25. The MT-35, which has a capacity of the order of 15,000 lines, features a distributed-communications command facility, using Type 6800 microprocessors; monolithic filters; and one-way codecs. The first MT-35 will be put into service in Chile this September as a subscriber-services center. In France, this product will be integrated into three telematics applications that have been ordered by the PTT. Furthermore, Thomson-CSF has submitted a proposal for the followup system.

Two Stages To an ISDN

The third largest French builder of switching systems, the CGCT [General Telephone Construction Company], nationalized last year, still produces the 11 F stepping system. In 1982, CGCT delivered 562,000 11 F system lines to the PTT, representing 46 new exchanges or expansions of existing exchanges. Despite its ups and downs, the firm represents a work force of 700 persons in research and development, and an industrial tool in place, ready to start up again. Nevertheless, the future of CGCT has not yet been settled. The firm, which absolutely must produce a time-division system, should be merged either with Thomson (as advocated by PTT) or with CGE [General Electric Company]. But it is a well-known fact that in either case the firm has no real future without a massive conversion of its staff. This chapter cannot be closed without mentioning the effects wreaked on employment by the formidable technological evolution that has taken place in switching. Three figures are particularly indicative in this regard and will eliminate the need for a lengthy exposition: The average working time needed to produce a telephone line (equivalent) has gone from 8.4 hours for a crossbar line, to 2.9 hours for a stepping-system line, to 1.4 hours for a time-division switching line. This transition has translated into the elimination of some 15,000 jobs in switching over the past few years.

But another technological change (a less drastic one) is in view: The evolution towards the ISDN, by way of an intermediate step designated the RITD [Integrated Voice and Data Network (IVDN)] . With this in mind, both CIT-ALCATEL and Thomson-CSF are developing the URN [Digital Connecting Unit], which will replace, respectively, the CSE and the URA-2 G, initially, and which will probably be interfaced later with a new system core (successor to the E-10 and MT-20). This URN, which will enable the interconnection of "digital and analog" subscribers, is expected to be available around 1985-1986.

With the URN, CIT-ALCATEL will introduce the "Nostradamus" system (see related article ahead), enabling ISDN-type service at 19.2 K bits/sec. Thomson, for its part, has broadened its capabilities by taking over TIT [Toulouse Industrial Technology (Company)], out of which merger has come the X-83 product line developed by THOMTIT [Thomson-TIT], that will be associated with the URN to transmit voice and data. For the succeeding stage, CIT-ALCATEL is banking on the SAFO [Optical Fiber Subscriber System] (see related article ahead), whereas Thomson-CSG is centering its effort on the definition of the

video switching center. It is to be noted that at this level the boundary between switching and transmission becomes blurred; hence, the joint studies being carried out by these two departments of CIT-ALCATEL, and the close liason between the Switching Division and LTT [Telephone and Telegraph Lines] at Thomson.

TRT's New Radio Relay Systems

Paris ELECTRONIQUE ACTUALITES in French 25 Mar 83 p 11

[Article: "Radio Relay Systems: An Export Vehicle"]

[Excerpts] Radio relay systems have traditionally been a strongpoint of our telecommunications industry. Despite a relatively weak French market--the PTT market, like that of Defense as well, has dropped by 20 percent in constant francs since 1977 to a little over 400 million francs--Thomson-CSF [Thomson-General Wireless Company] and SAT [Telecommunications Corporation], suppliers to the PTT and Defense Ministry, and TRT [Radio and Telephone Telecommunications Company] supplier to PTT and TDF [TELEDIFFUSION-FRANCE], as compared with their Japanese and American competitors, rank, all three of them, among the first five world-class makers. Behind NEC [Nippon Electric Company], which is in a class by itself, Thomson-CSF boasts the luxury of second place, ahead of the American companies GTE [General Telephone and Electronics] and Collins, and the Italian company Telettra. From a technological standpoint, the French builders are on a par with the top leaders, having, under the aegis of the PTT, already completed their changeover to a digital basis. Over and above their inherent importance from the standpoint of sales, the interest of radio relay systems lies in the fact that they are very good generators of exports: Tied in with them is the supplying of multiplexers, and they frequently "pull in" sales of other telecommunication systems.

From the standpoint of sales, The PTT market is divided up on the basis of 75 percent for the Thomson and SAT grouping (which share this on a 2/3 - 1/3 basis) and 25 percent for TRT.

Thomson-SAT Joint Production

In the domain of radio relay systems,Thomson-CSF Communication ranks second worldwide and perceives considerably more than half its annual turnover from exports, a turnover that has exceeded the level of 1.5 billion francs. Its activities cover all domains of wideband radio transmission, analog as well as digital, ranging from telephone, television and data radio relay systems to the remote surveillance of technical and industrial infrastructure, temporary links, tactical and infrastructural military networks, and rural telephony.

Thomson has mobile relay systems for television, telephony (960 channels) and digital data (8.5 and 34 Mbits/sec), low-capacity fixed equipment,

tropospheric (144 Kbits/sec) and line-of-sight (704 Kbits/sec and 2 Mbits/sec) subscriber connection equipment, analog-digital compatible equipment, and a digital equipment line. Mobile relay systems for the transmission of television programs are a specialty of the firm, which exports 90 percent of its production, totaling at present 3,700 types of equipment to 82 countries. In all, Thomson has built 90,000 km of radio relay systems--for the most part, turnkey projects--of all capacities and representing 360 million channel-kilometers. Among the biggest radio relay system contracts it has netted recently is the MEDARABTEL network, a telephone, television and telex network linking five countries (Saudi Arabia, North Yemen, South Yemen, Djibouti and Somalia).

Thomson-CSF and SAT have submitted a joint proposal to the PTT for the study of a new generation of digital equipment in the 2-, 4-, 7-, 8- and 11-GHz bands. The studies are presently at the stage of the basic subassemblies (oscillators, etc).

New Generation

But SAT, with radio relay system sales on the order of 400 million francs, more than half of which are exports, is also developing, on its own account, a line of equipment that has enjoyed considerable success on the French and export markets: The FHD line of radio relay systems, the "22-28" series of which, still being sold on the export market, was followed by a second-generation FHD-200, which makes possible the building of 8- and 34-Mbits/sec radio relay links in the 2-GHz band. SAT is currently producing 70 per month of these transceivers, which are the basic hardware for the regional links.

A third generation of digital radio relay systems, the "2000" series, is curcurrently under development at SAT. Development is centering on 2-, 8- and 34-Mbits/sec equipment at 2 GHz, and on 2-, 8-, and 34-Mbits/sec equipment at 7 GHz. This line of equipment, designed to gradually replace the "200" series toward the end of 1984 or beginning of 1985, is characterized essentially by its low power consumption. The latter represents a drop from 70 watts to 11 watts for equipment operating at 8 Mbits/sec in the 2-GHz band. The builder succeeded in achieving this low level of power consumption by "cutting power" at all levels: Thus, in the 1+1 version, the spare channel is on standby and therefore consumes very little power, as long as the operational channel functions normally. Interest in the "2000" is being shown by Thomson, which under the terms of the present agreement could manufacture a portion of it.

In addition, SAT is developing small radio relay systems oriented towards rural telephony. From its FHM 914 equipment, the firm is going to derive a 10-channel digital radio relay system (FMD 910), designed to be one of the transmission facilities of the 704-Kbits/sec, 10-channel multiplex system that is to be adapted to the main trunk of rural telephone systems. Subsequently, the firm will bring out a line of 1- to 30-channel systems.

Innovation and Distribution

Owing to its technological capacity and strong sales position in many foreign markets, TRT became the recognized leader of the Philips group (with world-wide responsibility for sales policy and product) with respect to radio relay systems. Its performance in the export sector also came to be recognized by the PTT, which accorded it "a decent place" on the French market and orders from it 34-Mbits/sec (at 10 and 15 GHz) and 2 x 34 Mbits/sec (at 4-8 GHz) radio relay systems.

TRT's radio relay systems activity is, in fact, growing rapidly: Its turnover increased fourfold between 1975 and 1980, and has since been rising at the rate of 30 percent a year, totaling over 300 million francs at the end of 1982. Its projected 1983 turnover comes to around 400 million francs, more than half of which is to be exports.

The firm is continuing to develop its line of equipment, the range of which will extend from 1.5 to 15 GHz and possibly to 23 GHz. The range will not be complete, but the builder plans to offer all the capacities and at least two off-the-shelf frequency bands.

TRT's new line of digital radio relay systems, which already included 8-, 34- and 2 x 34-Mbits/sec equipment, is to be enhanced by the addition of a 140-Mbits/sec system and of another 2-Mbits/sec system. The first of these is the number one priority for TRT, which is developing 6.5- and 4-GHz versions with the intent of penetrating the European market, and with the secret hope that the PTT will order some 6.5-GHz systems... A first experimental link, to be installed at Lannion this June, will be tested with the CNET [National Center for Telecommunications Studies], and semi-operational links are being planned for around the middle of next year. For this 140-Mbits/sec digital system, TRT has combined its data processing technique (for which it has gained an international reputation) with classic radio relay system techniques. The system, which will also include highly sophisticated adaptive filters and artful use of negative feedback at different levels of demodulation, has good prospects of becoming a very high-performing item on the market.

In the distributional sector, TRT has developed a new transmission concept with its integrated rural telephony system IRT-1500. This is a distributed radio-communication digital concentrator, designed primarily to interconnect widely dispersed subscribers. This local distribution is obtained at very low cost, through the use of TDMA [time-division multiple access]. The IRT-1500 enables the interconnection, at 1.5 GHz, of up to 128 subscribers separated by distances of from a few to over 400 km. The item has been ordered by PTT for the mother country as well as the DOM-TOM [Overseas Departments-Overseas Territories]. The PTT Administration has also asked the builder to adapt the system to the TELECOM-1 amd TRANSMIC [expansion unknown] systems, in the form of UDS-10-64 [10-channel, 64-Kbits/sec urban Data System], with demand- or pre-assignment of channels in accordance with

schedules (channel call-up and reservation procedures), and offering interconnections as follows: J64 at 64 Kbits/sec; V35 at 48 Kbits/sec; and X24 for N channels at 64 Kbits/sec. TRT expects that its IRT-1500 activity (25 million francs in 1983) will bring in over 150 million francs of annual sales in 5 years and will double that turnover 2 or 3 years later. This sums up the ambitious policy underlying this product, which is the object of proposals being made in over 50 countries.

Fiber Optic Cable Developments

Paris ELECTRONIQUE ACTUALITES in French 25 Mar 83 p 12

[Article: "Cable Transmissions: The Turn to Optics"]

> [Excerpts] To reap all the advantages of time-division switching, it was necessary to undertake a process of digitizing the transmission network. This is what the PTT undertook to do, setting as its objective a digitization rate of 50 percent by 1985 (versus close to 30 percent at present), to achieve a fully digitized network by the early 1990's (coincident with the replacement of the last electromechanical automatic exchange). Over the past 2 years, this orientation has been accompanied by the PTT's determination to introduce optical fibers into the network. From an industrial standpoint, these decisions have had the merit of positioning our manufacturers at the cutting edge of the technology. But they have also translated into a sharp drop in activity. For example, PTT's principal supplier of transmission equipment (CIT-ALCATEL) delivered 150,000 channels of analog 12-channel systems in 1976 versus...none in 1982. In 1976, 75 percent of this firm's turnover (1.6 billion francs) came from the 12-channel systems and the MIC [Microwave Integrated Circuit] systems (also 150,000 channels). Now--and this will be one of the major factors in the years to come (possibly beginning next year)--the MIC requirements for the French network will will be nil.
>
> This is why our builders are trying to compensate for this loss of activity, mainly by way of preparatory studies for for the RNIS [Integrated Services Digital Network (ISDN)].

First Orders for Standardized Fiber Optic Links

France's metallic-cable infrastructure is practically complete, which, as is known, poses critical, as yet unresolved problems, for an industry that has seen its orders drop to one-sixth their volume, between 1977 and 1982, in

the domain of interurban cables (and to half in that of network cables). Certain firms, like LTT [Telephone and Telegraph Lines] (where cables represent 35 percent of an annual turnover of 1.1 billion francs and 700 jobs out of a total of 3,950), have therefore turned toward export, and have not hesitated to equip themselves with new machines to produce cables to Anglo-Saxon standards (on a 10-pair in lieu of a 7-pair basis).

However, the cutback in orders for conventional cables has not produced a startup of orders for fiber-optic cables as some had expected (requirements have not justified it). Nevertheless, the PTT has decided to introduce fiber-optic cables wherever their economic advantages are beyond question, that is, in links without regenerative repeaters in large cities (34-Mbits/sec interexchange trunks over a 70 x 0.85-micron-fiber cable with a maximum capacity of 16,800 channels); in microwave drop links (links connecting microwave towers to operations or demodulation centers or to subscribers served directly from drop repeaters); and in videocommunication cable networks at the subscriber distribution level.

As regards long-distance links, the rapidity of technological advances is compelling the PTT Administration to revise its options. After opting for 0.85-micron applications, it was found that a 1.3-micron window offers advantages that are by no means negligible (less attenuation, permitting greater distances between repeaters), and further, that a 1.55-micron window is even more attractive. But the development of optical components for the latter is lagging.

However, the promise shown by monomode fiber, which permits the "passing" of the three optical windows, has induced the PTT to reexamine the experimental work on the Le Mans-La Fleche regional link, which was to be built using 1.3-micron multimode cable at 140 Mbits/sec. Cables de Lyon and CIT-ALCATEL for one section of the link, and SAT-LTT [Telecommunications Corporation-LTT] for the other section, have submitted applications to the DAII [Directorate of Industrial and International Affairs of the DGT [General Telecommunications Directorate]] to test with monomode fiber. But since, as mentioned above, PTT's needs are not urgent, some specialists consider it advisable not to rush into standardizing a long-distance fiber-optic link too soon. The givens are different as regards export, particularly to the United States and Canada.

Three Qualified Builders

In the domain of fiber-optic links, PTT has qualified three suppliers: LTT, CIT-ALCATEL (with CLTO [Lyon Optical Transmission Company], a subsidiary of Cables de Lyon) and SAT (with SILEC [Electrical Links Industrial Company]), which built, respectively, the Tuileries-Philippe Auguste link in Paris, the Dijon-Flavignerot microwave drop link, and the Bayonne-Biarritz link. LTT is building another link between two Paris telephone exchanges (Poncelet-Saint Lambert), as well as other links for the RATP [Independent

Parisian Transport System], the EDF [French Electric [Power] Company], the SCNF [French National Railroads], the Prefecture of Police, the Biarritz cable system, and for export (FRG [Federal Republic of Germany], Hungary, Mexico and Iraq). SAT is also building other fiber-optic links, like the Saint-Valery-Cayeux (12-km) URA [Analog Connecting Unit] 0.85-micron-fiber drop link; the 1.25-micron Charlieu-Belinont link, near Roanne (25 km), which is the forerunner, from the installation and optical fiber connection techniques, of the long-distance links of the future; the Biarritz cable network; and the putting into cable of the CNET's [National Center for Telecommunications Studies] Perros-Guirrec/Lannion link.

Last year, after placing orders on LTT and CIT-ALCATEL for the first optical-fiber links, the PTT began inviting industrial proposals. SAT (with SILEC), which at the time was slightly below par with the others, closed that gap. As for reeled cable, the 10 lots (each consisting of 10 km of 30-fiber cable), on which PTT had requested bids, were divided up as follows: 3 for SAT, 4 for SILEC and 3 for LTT. And as for the 5 links on which turn-key project bids were requested last October, they were awarded to SAT (2 links), LTT (2 links) and SILEC (1).

In other words, and even though PTT's more significant orders will not be forthcoming before 1985 or 1986, French industry has definitely taken the turn toward fiber optics. At CIT-ALCATEL, the Transmission Department (1,500 million francs turnover in 1982 with a staff of 4,500 persons) is devoting all its studies to optics and aims "to be present in all sectors of the market" (short- and long-distance and submarine cable links). The firm, which plans to complete its conversion to optics in 1987, is trying to capture a share of the fiber-optic links market in the United States, jointly with Cables de Lyon or with SICOR [expansion unknown] (retained on the basis of a request for bids). We might add that, with a production capacity of 45,000 km of fibers per year, FOI [expansion unknown] is expected to be able to meet French domestic needs as well as those of the export market.

Preparatory Studies for the RNIS [ISDN]

To offset the loss of activity owing to digitization, which will be even more deeply felt with the disappearance of the MIC [Microwave Integrated Circuit], the transmission industry sector--besides resorting to diversification of operations--is shifting its attention toward the subscriber distribution network: Where as of today there is but a single copper wire [as published] (between the serving exchange and the subscriber's station), preparations are under way for a substantial introduction of electronics, in preparation for the ISDN [Integrated Services Digital Network].

In this domain, CIT-ALCATEL is developing, under a PTT study contract, the "Nostradamus" system, which will permit the exchange of data between subscribers connected to future URN's [Digital Connecting Unit(s)] and the present URA's [Analog Connecting Unit(s)]. The core of the Nostradamus is a switching multiplexer, to be shared by 128 subscribers and connected to all

the special-purpose networks (TELECOM-1, TRANSPAC [expansion unknown], Telex, TRANSMIC [expansion unknown], etc). With a "smart" subscriber-terminal, which will replace the telephone terminal, the (business) subscriber will be able to access all of these networks by way of his present ordinary copper pair, over which telephone and 19.2-Kbits/sec telematics services will be transmitted as voice-over-data. An operations center will control several switching multiplexers. This pre-ISDN phase (planned for 1985) will be followed by the ISDN (during the 1990's) , which will be characterized by 144-Kbit subscribers (two 64-Kbit telephone channels and one 16-Kbit channel for low-speed data and signalling).

CIT-ALCATEL is also studying an SAFO [Optical Fiber Subscriber System], in the form of a wideband URN, capable of switching videophone links or circuits emanating from TV-image distribution centers. The principle of the system is based on wavelength-division multiplexing, using the different windows of an optical fiber and a two-way signal transmission over the same fiber. This will be the final phase of a wideband, all-digital network.

Videocommunication Networks for Industry

Paris ELECTRONIQUE ACTUALITES in French 25 Mar 83 p 13

[Article: "Videocommunication Networks: A Shot in the Arm for Industry"]

[Excerpts] In view of what has been achieved in time-division switching, the PTT is trying, with its videocommunication cable network, to turn a situation of reduced circumstances into one of a worldwide lead. This is the orientation being taken by the PTT Administration through the directives contained in its request for industrial proposals launched on 4 February, which is to lead to the first cable network orders to be placed with industry. In inviting the industrial firms to submit proposals for a system architecture involving a star-configured fiber-optics distributing network, the PTT is forgoing the current generation of telecommunication distribution cable systems of the type installed in Belgium and the United States (tree-configured coaxial cable networks) and committing itself to a road leading, in time, to wideband multiservice networks. The program that has been laid out for the period 1983-1985 calls for orders to be placed on industry for 1.4 million subscriber connecting units, representing a total of 7.5 billion francs (6 billion francs for the account of PTT and 1.5 billion for that of local communities). This equipment procurement plan hinges on a research and development effort that is being financed to the extent of 0.8 billion francs by the PTT and 1.6 billion francs by the industrial firms. It goes without saying that this program will infuse a new dynamism into a telecommunications industry that has been somewhat deenergized by the fall-off of government orders.

The Programs

The launching of videocommunication cable networks is being accorded a very favorable reception by the industrial firms for all the following reasons: First, because it represents a shot in the arm for the builders who are being hit by the drying up of orders for telephone equipment on the French market and who are hopeful that it will offset (at least, partially) their loss of business. Secondly, because the cable network program is being developed, from its very inception, within a telecommunications frame of reference. And thirdly, because it calls for according prime contractorship to industrial firms for a portion (as yet undefined) of the cable networks involved. As in other sectors, the [telecommunications] industrial firms are being invited to participate in joint-operating companies, and the fact that the PTT risks getting involved in a network management business with which it is unfamiliar has some industrialists thinking in terms of a breach being opened in the PTT's telecommunications monopoly.

As to the programs: It is planned to place orders on industry, from 1983 through 1985, for 1.4 million subscriber connecting units, totaling 7.5 billion francs (100,000 units in 1983, 300,000 units in 1984, and 1 million units in 1985). Beginning in 1986, the annual investment could come to 4 billion francs. However, two comments are in order: First, the 4 million [as published] to be spent each year will be divided up, according to some estimates, on the basis of 35 percent for installation (laying of cables, civil engineering work, etc), 25 percent for the manufacture of the cable itself, 25 percent for the equipment of all kinds installed within the network, and 15 percent for subscriber terminals. The portion going for electronic equipment is thus brought down to more reasonable levels. And secondly, some industrialists are pointing out that the cable networks can generate turnovers, but not necessarily any value-added revenues.

The latter, on the other hand, can be had from network prime contractorships. What this amounts to saying is that the PTT must not be too stingy in its concessions to industry, and moreover, that the number of builders sharing the market must not be too big.

The SAFO [Optical Fiber Subscriber System] being developed by CIT-ALCATEL will be a wideband digital connecting unit, providing videophone switching and the switching of television program distribution centers. Connected to this unit, by optical fibers, will be fiber-optics subscriber terminals that will provide access to the telephone and videophone networks, to the TV distribution centers and to the telematics systems. The SAFO principle rests on a wavelength-division multiplexing technique enabling use of the different available windows in an optical fiber. A mockup of this system will be shown this year at the "Telecom 81" International Exposition in Geneva.

9399
CSO: 5500/2673

TELECOMMUNICATIONS DIRECTOR REPORTS ON PLANS, PROGRESS

Oslo AFTENPOSTEN in Norwegian 3 May 83 p 34

[Article: "Telephone Waiting Line Dwindling Rapidly"]

[Text] The net influx of new principal subscribers into the telephone system reached almost 120,000 last year, or 30 percent more than the Telecommunications Agency had counted on for 1982 in its longterm plan. The telephone waiting line was reduced from 75,800 applicants in 1981 to about 41,000 last year and General Director Kjell Holler does not believe that there will be any surprising jump in the demand which will upset the chances for being able to eliminate the telephone waiting line countrywide before the end of 1985. On the other hand, local waiting lists can come into existence if delays occur in the political discussion of who will get the major contract for digital telephone exchanges.

At a press conference Monday, at which the Telecommunications Agency's annual report was presented, General Director Holler said that the rapid elimination of the telephone waiting line is due first and foremost to the fact that the Telecommunications Agency in recent years has finally gotten the necessary means. He added that the Telecommunications Agency has had very good growth in productivity the last few years, a thing which has also contributed to the result. In 1980 the growth in total productivity was 1.9 percent and 4.5 percent in 1981, while it increased a whole 5.8 percent in 1982. Production per number employed rose about 13 percent. Another reason that the waiting line can now be reduced faster than earlier expected is that the increase in the demand for telephones has been somewhat reduced.

The Telecommunications Agency's net profit increased from about 127 million kroner in 1981 to somewhat under 644 million kroner last year. The heavy growth in revenue--up 27 percent to about 6.6 billion kroner--is due to a heavy increase in traffic, a significant influx of new subscribers, improved productivity and the rate increases which were put through on 1 January 1982. The Telecommunications Agency's goal of steadily greater self-financing of investments was thereby fulfilled. Of investments of about 2.84 billion kroner last year, 47.5 percent were invested with private capital, and in the board of directors budget proposal for 1984 it is planned that 75 percent of investment will take place with private capital.

Automation of the telephone system will be completed in 1985 and General Director Holler makes no secret of the fact that the process implies signficant social problems. To be sure, it is true that the Telecommunications Agency will be able to

offer everyone affected by automation continued work in the agency, but not in their home towns. It is therefore believed that several hundred employees will give up their jobs in the Telecommunications Agency in the years to come, as the result of automation.

Before 1 August it will be clear which of the total of five firms the Telecommunications Agency believes should get the contract for the digital public telephone exchanges for further expansion of the telephone system in Norway. The agency has planned for the further political discussion of the matter being able to take place as soon as the first orders can be taken around the turn of the year in 1983-84.

"We have based our planning on the fact that the consequences can be serious if the political discussion takes a longer time," Technical Director Ole Petter Håkonsen said at the press conference. "For example, our building plans take into account the fact that digital telephone exchanges require less space than today's analog exchanges, and purely and simply there will be no room to install analog exchanges if we have delays in digital development. We have also an enterprising plan for digital development in individual cities and local telephone waiting lines will be able to occur if we do not manage to hold to this plan."

The Communications Ministry has turned thumbs down regarding plans for a "Norwegian Business Communications Corporation"--a development and marketing corporation for business communications established by the Telecommunications Agency and a number of private companies, and in which the Telecommunications Agency was to have considerable shares. On the other hand, the ministry has asked the agency to clear up the question of extended use of development contracts and it has also not closed the door on the idea of a corporation--excluding one owned by the Telecommunications Agency--which will pursue marketing and sales of communications systems for industry.

In a few months the European telecommunications satellite, the ECS--European Communications Satellite--will be sent up and with its area of coverage will be able to offer Norwegian television viewers hooked up to the cable network an abundance of programs. Broadcasting from the ECS will, however, take place in the communications band, which is also used for ordinary telephone traffic, and the Telecommunications Agency therefore is adopting the position that no private cable companies are to get permission for receiving and distributing broadcasts from the satellite.

8985
CSO: 5500/2699

TELECOMMUNICATIONS AGENCY ASKS RIGHT TO BUILD ECS STATIONS

Oslo AFTENPOSTEN in Norwegian 4 May 83 p 11

[Article by Truls Martinsen: "Telecommunications Agency Wants to Build Stations for ECS Satellite"]

[Text] Only the Telecommunications Agency can, in the agency's view, establish and operate receiving stations for the ECS satellite system, and the agency is aiming at establishing receiving stations and offering broadcasts for cable TV. The condition is that the authorities give permission to broadcast programs in the network.

The fact that the Telecommunications Agency is now asking to be assigned the job of receiving the signals from the ECS satellite is primarily for technical reasons. The signals from the ECS satellite are transmitted in the so-called communications band, channels which are used also for other telecommunications than television, and this is the Telecommunications Agency's province. The agency's satellite stations will also be used for this purpose.

By the agency's owning and operating the stations it is possible best to guard against the misuse of traffic which is not intended for the public. In order to avoid disturbances of the signals from the ECS satellite, the receiving stations must, besides, be planned together with the radio link network, which will use the same frequency band, it says in the press release.

It is the Communications Ministry after consultation with the Culture Ministry which is to assess the issue, Culture Ministry Undersecretary Jan S. Levy tells AFTENPOSTEN. Hitherto satellite broadcasts, for the time being only from the OTS satellite, have been received by private cable systems.

The Telecommunications Agency's play can be viewed in connection with the agency's own plans to develop a cable network for distribution of TV programs. The agency will gradually gain both free capacity and expertise in developing a cable network. At the agency they are not unfamiliar with developing a cable network with the idea of a future telecommunications network, a broadband network in which television is included only as a part of the service. But the Telecommunications Agency is also interested in parts of a package of this sort, e.g., receiving stations for signals from satellites.

"An antenna which is to receive the relatively weak signals which the ECS satellite will transmit will be relatively expensive, between 50,000 and 100,000 kroner.

They will therefore only be suited for joint installations and cables," Telecommunications Directorate Assistant Technical Director Ole Johan Haga tells AFTENPOSTEN.

The Telecommunications Agency has the possibility of renting two channels in the ECS system, and before June this year a stand must be taken regarding whether this opportunity is to be used for satellite television.

8985
CSO: 5500/2699

FIRM INTRODUCES WORLD'S FIRST AUTOMATED 'SUPER TELEX'

Oslo AFTENPOSTEN in Norwegian 6 May 83 p 52

[Article by Rolf L. Larsen: "World Premiere for Automatic Super Telex"]

[Text] The world's first automatic telex transmission took place on Thursday at the NOR-COM '83 exhibition at Sjølyst in Oslo. In a period of eight seconds four text documents were transmitted via a satellite 36,000 km out in space and the public data transmission system, between two computers. The successful "Super Telex" transmission through space signifies a new era for communications between nations the world over and between ship and shore. It was a satellite in the INMARSAT marine satellite system over the Indian Ocean which was used to transmit the documents, and the two computers which "communicated" with one another stood only a few meters from each other at Sjølyst.

"The superfast communication went from a Telex machine via a marine shore station at the Telecommunications Agency's stand at the exhibition up to the roof of the Sjølyst center to a marine shore station antenna. From this antenna the signals were then transmitted to the satellite 36,000 km over the Indian Ocean and down again to the Norwegian marine shore station at Eik in Rogaland. From here the signals went via the public telecommunications network to Oslo," Telecommunications Directorate Consultant Otto Bigseth tells AFTENPOSTEN.

Sponsoring the world premiere were, among others, the Telecommunications Directorate, the Norwegian Technical and Natural Science Research Council's (NTNF's) "Shipping of the Future" program, and the Norwegian A/S Computas data transmission company.

"This form of transmission of data between shore and ship opens up very interesting possibilities for the development of new advanced aids for administration and operation of ships and drilling platforms. With this transmission technique it will be possible to build up a large and varied interchange of information between sea and shore, which will be able to be transmitted superfast and for a very reasonable price," says NTNF Program Coordinator Arne Sagen.

Shipping of the Future

Chief Engineer Halvor Bothner-By of the A/S Computas data transmission company led the transmission project at Sjølyst. A/S Computas is Det norske Veritas's newly established organization unit for telecommunications and data processing services.

The transmission took place between two computers from Norsk Data by means of the new Telex technique--often called "Super Telex." Transmission takes place at a speed of 300 characters per second and with an automatic error check and error correction in cases of disturbances. Capital and lower-case letters and every possible national alphabet can be transmitted in this manner.

8985
CSO: 5500/2699

MINISTER SEES CHALLENGE FROM FOREIGN TV RECEPTION IN NORWAY

Oslo AFTENPOSTEN in Norwegian 6 May 83 p 52

[Article: "Increased TV Offerings Challening"]

[Text] "We have no desire to protect Norway from impulses from outside. On the contrary, we would like to open our windows to the world. We must avoid being passive recipients of whatever arrives from the outside world. The increasing program offerings from abroad must be regarded as a challenge to intensify our cultural effort and to improve the product and its quality. In the government's view this can be done by encouraging more radio and TV production in Norway in the form of local radio and television operations."

It was Culture Minister Lars Roar Langslet who said this in a speech at the NOR-COM '83 international telecommunications exhibition in Oslo on Thursday. He added that in principle there is still a broadcasting monopoly here at home as long as the broadcasting legislation is in effect.

"It is the government's purpose to propose changes in the law to Parliament, so that independent radio and TV stations can be established on a permanent basis," he said.

"In the government's view greater competition on the air will spur NRK [the Norwegian Broadcasting System] to newly creative and active efforts both in administrative and creative aspects. Already now it appears that the modest attempts at local radio and local TV have had some effect along this line. This is a blessing, because NRK in the foreseeable future will be our primary broadcasting institution," the cabinet minister pointed out.

According to Langslet the cable technology is the most promising and most rapidly expanding technology for future transmission of telecommunications services and broadcasting. Hitherto the Telecommunications Agency, largely speaking, has restricted itself to technical testing and approval of cable systems. Gradually it will be natural to give the Telecommunications Agency a greater role in development of cable TV, but the main principle will be that the major portion of future cable network development is to be performed by private firms, he said.

In accordance with Norwegian law it is only NRK which can relay TV signals received from communications satellites. Individual private cable television companies have received an exemption for transmitting programs received from the European OTS satellite. Langslet thought that the law should be changed so that relaying of foreign TV broadcasts can take place without individual permission from the authorities.

8985
CSO: 5500/2699

END